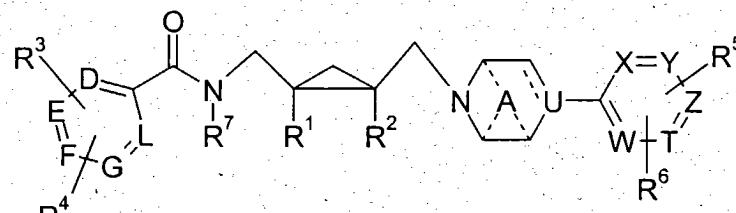


Claims

1. A compound of the formula



(I)

wherein D, E, F, G, L, T, W, X, Y and Z are each, independently, N or CH;

5 U is CR⁸ or N when U is single bonded to both carbons adjacent to it in the nitrogen containing ring of which it is a member, and U is C when U is double bonded to one of the carbons that is adjacent to it in the nitrogen containing ring of which it is a member;

A is (CH₂)_m wherein m is zero, one or two; R¹ and R² are selected, independently, from hydrogen, (C₁-C₆) alkyl optionally substituted with from one to seven fluorine atoms, 10 cyano, -OR⁹, and -CONHR¹⁰;

or R¹ and R², together with carbon atoms of the cyclopropyl ring to which they are attached, form a five or six membered saturated or unsaturated monocyclic ring containing from zero to four heteroatoms, wherein said heteroatoms are selected, independently, from oxygen, sulfur and nitrogen, with the proviso that there can not be two adjacent ring oxygen atoms, and wherein said ring can be optionally substituted with from one to three substituents independently selected from (C₁-C₄) alkyl optionally substituted with from one to three fluorine atoms, (C₁-C₄) alkoxy optionally substituted with from one to three fluorine atoms, cyano, nitro, halo, hydroxy, amino, (C₁-C₄) alkylamino, di[(C₁-C₆)alkyl] amino, (C₁-C₄) amidoamino and (C₁-C₄) alkanoyl;

20 or one of R¹ and R² forms, together with R⁷, a five or six membered saturated or unsaturated monocyclic ring containing from zero to four heteroatoms, wherein said heteroatoms are selected, independently, from oxygen, sulfur and nitrogen, with the proviso that there can not be two adjacent ring oxygen atoms, and wherein said ring can be optionally substituted with from one to three substituents independently selected from (C₁-C₄) alkyl 25 optionally substituted with from one to three fluorine atoms, (C₁-C₄) alkoxy optionally substituted with from one to three fluorine atoms, cyano, nitro, halo, hydroxy, amino, (C₁-C₄) alkylamino, di[(C₁-C₆)alkyl] amino, (C₁-C₄) amidoamino and (C₁-C₄) alkanoyl;

R³ and R⁴ are selected, independently, from hydrogen, halo, (C₁-C₆) alkyl optionally substituted with from one to seven fluorine atoms, cyano, hydroxy, -CONHR¹¹, -OR¹², 30 -NR¹³R¹⁴ and -COR¹⁵.

or one of R³ and R⁴ forms, together with R⁷, a five or six membered aromatic or nonaromatic ring containing from one to four heteroatoms, wherein said heteroatoms are

selected, independently, from oxygen, sulfur and nitrogen, with the proviso that there can not be two adjacent ring oxygen atoms, and wherein said ring can be optionally substituted with from one to three substituents independently selected from (C₁-C₄) alkyl optionally substituted with from one to three fluorine atoms, (C₁-C₄) alkoxy optionally substituted with from one to three fluorine atoms, cyano, nitro, halo, hydroxy, amino, (C₁-C₄) alkylamino, di[(C₁-C₆)alkyl] amino, (C₁-C₄) amidoamino and (C₁-C₄) alkanoyl;

5 R⁵ and R⁶ are selected, independently, from hydrogen, halo, (C₁-C₆) alkyl optionally substituted with from one to seven chlorine atoms, cyano, hydroxy, -CONHR¹⁶, -OR¹⁷, -NR¹⁸R¹⁹, and -COR²⁰,

10 R⁷ is hydrogen, (C₁-C₆)alkyl optionally substituted with from one to seven fluorine atoms, or aryl selected from phenyl and naphthyl, wherein said aryl can be optionally substituted with from one to three substituents independently selected from (C₁-C₄) alkyl optionally substituted with from one to three fluorine atoms, (C₁-C₄) alkoxy optionally substituted with from one to three fluorine atoms, cyano, nitro, halo, hydroxy, amino, (C₁-C₄) alkylamino, di[(C₁-C₆)alkyl] amino, (C₁-C₄) amidoamino and (C₁-C₄) alkanoyl;

15 or R⁷ can form a ring with R¹ or R², as described in the above definition of R¹ and R²;
or R⁷ can form a ring with R³ or R⁴, as described in the above definition of R³ and R⁴;
R⁸ is selected from hydrogen, cyano, (C₁-C₆) alkyl optionally substituted with from one to seven fluorine atoms, -OR⁹, and -CONHR¹⁰.

20 R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁶, R¹⁷, R¹⁸ and R¹⁹ are selected, independently, from hydrogen, (C₁-C₆)alkyl optionally substituted with from one to seven fluorine atoms, aryl and heteroaryl, wherein said aryl is selected from phenyl and naphthyl and said heteroaryl is selected from four to six membered monocyclic aromatic rings containing from one to four heteroatoms (nonlimiting examples of such rings are furyl, thienyl, pyrrolyl, oxazolyl, thiazolyl, 25 imidazolyl, oxadiazolyl, thiadiazolyl, pyridyl, triazolyl, triazinyl, pyridazyl, pyrimidinyl and pyrazolyl) and eight to twelve membered bicyclic aromatic rings containing from one to five heteroatoms, wherein said heteroatoms are selected, independently, from oxygen, sulfur and nitrogen, with the proviso that there can not be two adjacent ring oxygen atoms, and wherein said aryl and heteroaryl rings can optionally be substituted one or more substituents,

30 preferably with from zero to two substituents, independently selected from (C₁-C₄) alkyl optionally substituted with from one to three fluorine atoms, (C₁-C₄) alkoxy optionally substituted with from one to three fluorine atoms, cyano, nitro, halo, hydroxy, amino, (C₁-C₄) alkylamino, di[(C₁-C₆)alkyl] amino, (C₁-C₄) amidoamino and (C₁-C₄) alkanoyl;

35 R¹⁵ and R²⁰ are selected, independently, from NHR²¹ and the group of radicals listed in the definition of R⁹ through R¹⁹; and

R²¹ is selected from the group of radicals listed in the definition of R⁹ through R¹⁹;
or a pharmaceutically acceptable salt thereof.

2. A compound according to claim 1, wherein U is nitrogen.
3. A compound according to claim 1, wherein both R¹ and R² are hydrogen.
4. A compound according to claim 1, wherein R¹ and R² are selected, independently, from hydrogen and (C₁–C₆)alkyl.
5. 5. A compound according to claim 1 wherein U is carbon.
6. A compound according to claim 1 wherein U is -CH.
7. A compound according to claim 1 wherein U is -C-CN.
8. A compound according to claim 1 wherein U is -C-(C₁-C₆)alkyl wherein the alkyl moiety may optionally be substituted with from one to seven fluorine atoms.
10. 9. A compound according to claim 1 wherein U is -COR⁹.
10. 10. A compound according to claim 1 wherein U is -C-CONHR¹⁰.
11. 11. A compound according to claim 1 wherein U is -C-CN.
12. 12. A compound according to claim 1 which is in the Z (cis) configuration with respect to the cyclopropyl ring.
15. 13. A compound according to claim 1 wherein m is zero or two, in the case where m is two forming an azabicyclic ring system bridged either diagonally or directly across the ring system.
14. A compound according to claim 1 wherein R¹ and R² are selected, independently, from hydrogen, methyl, cyano, trifluoromethyl and trifluoromethoxy.
20. 15. A pharmaceutical composition for treating a disorder or condition selected from psychotic (e.g., psychosis, schizophrenia, schizo-affective disorders, psychotic depression, mania, paranoid and delusional disorders), anxiety-related disorders (e.g., generalized anxiety disorder, post traumatic stress disorder, panic disorder, obsessive-compulsive disorder and phobias, including social phobia), mood disorders (e.g., cyclothymia, dysthymia, major depressive disorder, premenstrual syndrome, premenstrual dysphoric disorder, bipolar disorder, seasonal affective disorder), Parkinson's disease, hypertension, hypotension, urinary incontinence, chemical dependencies and addictions (e.g., dependencies on alcohol, cocaine, heroin, nicotine, benzodiazepines, phenobarbitol), sexual dysfunction (e.g., premature ejaculation, male erectile dysfunction) and movement disorders (e.g., drug induced and neurodegeneration based dyskinesias) in a mammal, comprising an amount of a compound according to claim 1, or a pharmaceutically acceptable salt thereof, that is effective in treating such disorder or condition, and a pharmaceutically acceptable carrier.
30. 16. A method of treating a disorder or condition selected from psychotic (e.g., psychosis, schizophrenia, schizo-affective disorders, psychotic depression, mania, paranoid and delusional disorders), anxiety-related disorders (e.g., generalized anxiety disorder, post traumatic stress disorder, panic disorder, obsessive-compulsive disorder and phobias,

including social phobia), mood disorders (e.g., cyclothymia, dysthymia, major depressive disorder, premenstrual syndrome, premenstrual dysphoric disorder, bipolar disorder, seasonal affective disorder), Parkinson's disease, hypertension, hypotension, urinary incontinence, chemical dependencies and addictions (e.g., dependencies on alcohol, cocaine, heroin, nicotine, benzodiazepines, phenobarbitol), sexual dysfunction (e.g., premature ejaculation; male erectile dysfunction) and movement disorders (e.g., drug induced and neurodegeneration based dyskinesias) in a mammal, comprising administering to said mammal an amount of a compound according to claim 1, or a pharmaceutically acceptable salt thereof, that is effective in treating such disorder or condition.

10 17. A pharmaceutical composition for treating a disorder or condition selected from psychotic (e.g., psychosis, schizophrenia, schizo-affective disorders, psychotic depression, mania, paranoid and delusional disorders), anxiety-related disorders (e.g., generalized anxiety disorder, post traumatic stress disorder, panic disorder, obsessive-compulsive disorder and phobias, including social phobia), mood disorders (e.g., cyclothymia, dysthymia, major depressive disorder, premenstrual syndrome, premenstrual dysphoric disorder, bipolar disorder, seasonal affective disorder), Parkinson's disease, hypertension, hypotension, urinary incontinence, chemical dependencies and addictions (e.g., dependencies on alcohol, cocaine, heroin, nicotine, benzodiazepines, phenobarbitol), sexual dysfunction (e.g., premature ejaculation, male erectile dysfunction) and movement disorders (e.g., drug induced and neurodegeneration based dyskinesias) in a mammal, comprising a dopamine D3 receptor binding modulating amount of a compound according to claim 1, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

15 18. A method of treating a disorder or condition selected from psychotic (e.g., psychosis, schizophrenia, schizo-affective disorders, psychotic depression, mania, paranoid and delusional disorders), anxiety-related disorders (e.g., generalized anxiety disorder, post traumatic stress disorder, panic disorder, obsessive-compulsive disorder and phobias, including social phobia), mood disorders (e.g., cyclothymia, dysthymia, and major depressive disorder, premenstrual syndrome, premenstrual dysphoric disorder, bipolar disorder, seasonal affective disorder), Parkinson's disease, hypertension, hypotension, urinary incontinence, chemical dependencies and addictions (e.g., dependencies on alcohol, cocaine, heroin, nicotine, benzodiazepines, phenobarbitol), sexual dysfunction (e.g., premature ejaculation, male erectile dysfunction) and movement disorders (e.g., drug induced and neurodegeneration based dyskinesias) in a mammal, comprising administering to said mammal a D3 receptor binding modulating effective amount of a compound according to claim 1 or a pharmaceutically acceptable salt thereof.

20 19. A pharmaceutical composition for treating a disorder or condition, treatment of which can be effected or facilitated by modulating binding activity at the dopamine D3

25

30

35

receptor, in a mammal, including a human, comprising an amount of a compound according to claim 1 that is effective in treating such disorder or condition, and a pharmaceutically acceptable carrier.

20. A method of treating a disorder or condition, treatment of which can be
5 effected or facilitated by modulating binding activity at the dopamine D3 receptor, in a
mammal, including a human, comprising administering to said mammal an amount of a
compound according to claim 1 that is effective in treating such disorder or condition.

21. A pharmaceutical composition for treating a disorder or condition, treatment
of which can be effected or facilitated by modulating binding activity at the dopamine D3
10 receptor, in a mammal, including a human, comprising a D3 receptor binding modulating
effective amount of a compound according to claim 1, and a pharmaceutically acceptable
carrier.

22. A method of treating a disorder or condition, treatment of which can be
effected or facilitated by modulating binding activity at the dopamine D3 receptor, in a
15 mammal, including a human, comprising administering to said mammal a D3 receptor binding
modulating effective amount of a compound according to claim 1.

23. A method according to claim 16 wherein the disorder or condition being
treated is a psychotic disorder or condition.

24. A method according to claim 16 wherein the disorder or condition being
20 treated is an anxiety-related disorder.

25. A method according to claim 16 wherein the disorder or condition being
treated is a movement disorder.

26. A method according to claim 16 wherein the disorder or condition being
treated is Parkinson's disease.

25 27. A method according to claim 16 wherein the disorder or condition being
treated is a urinary incontinence.

28. A method according to claim 16 wherein the disorder or condition being
treated is a hypertension.

29. A method according to claim 16 wherein the disorder or condition being
30 treated is hypotension.

30. A method according to claim 16, wherein the disorder or condition being
treated is a chemical dependency or addiction.

31. A method according to claim 16, wherein the disorder or condition being
treated is a behavioral dependency or addiction.

35 32. A method according to claim 16, wherein the disorder or condition being
treated is a mood disorder.